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12 LIMITED.

13 **UNITED STATES DISTRICT COURT**  
14 **NORTHERN DISTRICT OF CALIFORNIA**  
15 **SAN FRANCISCO DIVISION**

16 HTC CORPORATION and HTC AMERICA,  
17 INC.,

Plaintiff,

18 v.

19 TECHNOLOGY PROPERTIES LIMITED,  
20 PATRIOT SCIENTIFIC CORPORATION,  
and ALLIACENSE LIMITED,

21 Defendants.  
22

CASE NO. 08-CV-00882 JL

**DECLARATION OF ROGER COOK IN  
SUPPORT OF DEFENDANTS'  
MOTION**

Date: June 4, 2008

Time: 9:30 a.m.

Place: Courtroom F, 15<sup>th</sup> Floor

Judge: Hon. James Larson

1 I, Roger L. Cook, declare and state as follows:

2 1. I was counsel of record for Technology Properties, Limited, Inc. ("TPL") in the  
3 case styled Technology Properties Limited, Inc. et al. v. Fujitsu, Ltd. et al., No. 2:05-cv-00494  
4 (E.D. Tex. filed October 24, 2005) ("the E.D. Tex. Case"). I continue to counsel TPL in an  
5 advisory role.

6  
7 2. Attached as Exhibit A is a true and correct copy of the *Complaint for Patent*  
8 *Infringement*, E.D. Tex. Case, filed on October 24, 2005.

9 3. Attached as Exhibit B is a true and correct copy of the *Notice of Filing Defendants'*  
10 *Technology Tutorial*, E.D. Tex. Case, Doc. No. 241.

11 4. Attached as Exhibit C is a true and correct copy of the *Memorandum Opinion and*  
12 *Order*, E.D. Tex. Case, Doc. No. 259, known colloquially as a *Markman* decision.

13 5. The '336 patent, the '584 patent, and the '148 patent are all divisional patents of the  
14 '749 patent. Thus, by definition, all four patents have the same specification. Further, I have  
15 personally reviewed all four patents and understand this to be the case.

16 6. Attached as Exhibit D is a true and correct copy of the *Plaintiffs' Amended Notice*  
17 *of Appeal*, E.D. Tex. Case, Doc. No. 350.

18 7. Attached as Exhibit E is a true and correct copy of The *First Amended Answer of*  
19 *ARM, Ltd. to Plaintiff's Second Amended Complaint*, E.D. Tex. Case, Doc. No. 203.

20 8. The '623 patent and the '638 patent list the same set of inventors, Sreenath  
21 Mambakham, Arockiyaswamy Venkidu, and Larry Jones. Ms. Mambakham and Mr. Venkidu are  
22 both current employees of TPL. Mr. Jones is a consultant for TPL.

23 9. The MMP patents list Charles Moore and Russell Fish as inventors. Mr. Moore is a  
24 consultant for TPL.

I declare under penalty of perjury under the laws of the United States of America the foregoing statements are true and correct; and all statements of belief are believe to be true and correct.

EXECUTED this 25th day of April 2008 in Donoma, California.

2006

Roger L. Cook

# Exhibit A

**IN THE UNITED STATES DISTRICT COURT  
FOR THE EASTERN DISTRICT OF TEXAS  
MARSHALL DIVISION**

FILED-CLERK  
U.S. DISTRICT COURT  
05 OCT 24 PM 4: 43  
TX EASTERN-MARSHALL

Technology Properties Limited, Inc.,

Plaintiff,

vs.

Fujitsu Limited, Fujitsu General America, Inc.,  
Fujitsu Computer Products of America, Inc.,  
Fujitsu Computer Systems Corp., Fujitsu  
Microelectronics America, Inc., Fujitsu Ten  
Corporation of America, Matsushita Electrical  
Industrial Co., Ltd., Panasonic Corporation of  
North America, JVC Americas Corporation,  
NEC Corporation, NEC Electronics America,  
Inc., NEC America, Inc., NEC Display  
Solutions of America, Inc., NEC Solutions  
America, Inc., NEC Unified Solutions, Inc.,  
Toshiba Corporation, Toshiba America, Inc.,  
Toshiba America Electronic Components, Inc.,  
Toshiba America Information Systems, Inc. and  
Toshiba America Consumer Products, LLC,

Defendants.

Civil Action No.

**2-05 C V - 494**

**Jury Trial Demanded**

**COMPLAINT FOR PATENT INFRINGEMENT**

Plaintiff Technology Properties Limited, Inc., for its complaint against defendants Fujitsu Limited, Fujitsu General America, Inc., Fujitsu Computer Products of America, Inc., Fujitsu Computer Systems Corp., Fujitsu Microelectronics America, Inc., Fujitsu Ten Corporation of America, Matsushita Electrical Industrial Co., Ltd., Panasonic Corporation of North America, JVC Americas Corporation, NEC Corporation, NEC Electronics America, Inc., NEC America, Inc., NEC Display Solutions of America, Inc., NEC Solutions America, Inc., NEC Unified Solutions, Inc., Toshiba Corporation, Toshiba America, Inc., Toshiba America Electronic Components, Inc., Toshiba America Information Systems, Inc. and Toshiba America Consumer Products, LLC, alleges:

## THE PARTIES

1. Plaintiff Technology Properties Limited, Inc. ("TPL"), is a corporation duly organized and existing under the laws of the State of California, and maintains its principal place of business in San Jose, California.

2. TPL is informed and believes, and on the basis of such information and belief alleges, that defendant Fujitsu, Ltd. ("Fujitsu"), is a corporation organized and existing under the laws of the Country of Japan, and maintains its principal place of business at Shiodome City Center, 1-5-2 Higashi-Shimbashi, Minato-ku, Tokyo 105-7123, Japan.

3. TPL is informed and believes, and on the basis of such information and belief alleges, that defendant Fujitsu General America, Inc. ("Fujitsu General"), is a corporation organized and existing under the laws of the State of Delaware, and maintains its principal place of business at 353 Route 46 West, Fairfield, NJ 07004.

4. TPL is informed and believes, and on the basis of such information and belief alleges, that defendant Fujitsu Computer Products of America, Inc. ("Fujitsu Computer Products"), is a corporation organized and existing under the laws of the State of California and maintains its principal place of business at 2904 Orchard Parkway, San Jose, CA 95134.

5. TPL is informed and believes, and on the basis of such information and belief alleges, that defendant Fujitsu Computer Systems Corp. ("Fujitsu Computer Systems") is a corporation organized and existing under the laws of the State of California, and maintains its principal place of business at 1250 East Arquez Avenue M/S 124, Sunnyvale, CA 94085.

6. TPL is informed and believes, and on the basis of such information and belief alleges, that defendant Fujitsu Microelectronics America, Inc. ("Fujitsu Microelectronics"), is a corporation organized and existing under the laws of the State of California, and maintains its principal place of business at 1250 East Arquez Avenue M/S 333, Sunnyvale, CA 94088-3470.

7. TPL is informed and believes, and on the basis of such information and belief alleges, that defendant Fujitsu Ten Corporation of America ("Fujitsu Ten"), is a corporation

organized and existing under the laws of the State of California, and maintains its principal place of business at 19600 South Vermont Avenue, Torrance, CA 90502.

8. TPL is informed and believes, and on the basis of such information and belief alleges, that defendant Matsushita Electrical Industrial Co., Ltd. ("Matsushita"), is a corporation organized and existing under the laws of the Country of Japan, and maintains its principal place of business at 1006, Kadoma, Kadoma City, Osaka 571-8501, Japan.

9. TPL is informed and believes, and on the basis of such information and belief alleges, that defendant Panasonic Corporation of North America ("Panasonic") is a corporation organized and existing under the laws of the State of Delaware, and maintains its principal place of business at One Panasonic Way, Secaucus, NJ 07094.

10. TPL is informed and believes, and on the basis of such information and belief alleges, that defendant JVC Americas Corporation ("JVC") is a corporation organized and existing under the laws of the State of Delaware, and maintains its principal place of business at 1700 Valley Road, Wayne, NJ 07470.

11. TPL is informed and believes, and on the basis of such information and belief alleges, that defendant NEC Corporation ("NEC") is a corporation organized and existing under the laws of the Country of Japan, and maintains its principal place of business at 7-1, Shiba 5-chome, Minato-ku, Tokyo 108-8001.

12. TPL is informed and believes, and on the basis of such information and belief alleges, that defendant NEC Electronics America, Inc. ("NEC Electronics") is a corporation organized and existing under the laws of the State of California, and maintains its principal place of business at 2880 Scott Boulevard, Santa Clara, CA 95050-2554.

13. TPL is informed and believes, and on the basis of such information and belief alleges, that defendant NEC America, Inc. ("NEC America"), is a corporation organized and existing under the laws of the State of New York, and maintains its principal place of business at 6555 North State Highway 161, Irving, Texas 75039.

14. TPL is informed and believes, and on the basis of such information and belief alleges, that defendant NEC Display Solutions of America, Inc., ("NEC Display") is a

corporation organized and existing under the laws of the State of Delaware, and maintains its principal place of business at 500 Park Boulevard, Suite 1100, Itasca, IL 60143.

15. TPL is informed and believes, and on the basis of such information and belief alleges, that defendant NEC Solutions America, Inc. ("NEC Solutions"), is a corporation organized and existing under the laws of the State of Delaware, and maintains its principal place of business at 10850 Gold Center Drive #200, Ranch Cordova, CA 95670.

16. TPL is informed and believes, and on the basis of such information and belief alleges, that defendant NEC Unified Solutions, Inc. ("NEC Unified"), is a corporation organized and existing under the laws of the State of Nevada, and maintains its principal place of business at 6555 North State Highway 161, Irving, Texas 75039.

17. TPL is informed and believes, and on the basis of such information and belief alleges, that defendant Toshiba Corporation ("Toshiba") is a corporation organized and existing under the laws of the Country of Japan, and maintains its principal place of business at 1-1, Shibaura 1-chome, Minato-ku, Tokyo 105-8001, Japan.

18. TPL is informed and believes, and on the basis of such information and belief alleges, that defendant Toshiba America, Inc. ("Toshiba America"), is a corporation organized and existing under the laws of the State of Delaware, and maintains its principal place of business at 1251 Avenue of the Americas, Suite 4100, New York, NY 10020.

19. TPL is informed and believes, and on the basis of such information and belief alleges, that defendant Toshiba America Electronic Components, Inc. ("Toshiba Electronic"), is a corporation organized and existing under the laws of the State of California, and maintains its principal place of business at 19900 MacArthur Boulevard, Suite 400, Irvine, CA 92612.

20. TPL is informed and believes, and on the basis of such information and belief alleges, that defendant Toshiba America Information Systems, Inc. ("Toshiba Information"), is a corporation organized and existing under the laws of the State of California, and maintains its principal place of business at 9740 Irvine Boulevard, Irvine, CA 92618.

21. TPL is informed and believes, and on the basis of such information and belief alleges, that defendant Toshiba America Consumer Products, LLC ("Toshiba Consumer"), is a



limited liability corporation organized and existing under the laws of the State of New Jersey, and maintains its principal place of business at 82 Totowa Road, Wayne, NJ 07470.

### **JURISDICTION AND VENUE**

22. The court has subject matter jurisdiction pursuant to 28 U.S.C. §§1331 and 1338(a) because this action arises under the patent laws of the United States, 35 U.S.C. §§1 *et seq.*

23. Venue is proper in this district as to defendants, and each of them, pursuant to 28 U.S.C. §§1391(b),(c),(d) and 1400(b) in that defendants have done business in this district, have committed acts of infringement in this district, and continue to commit acts of infringement in this district.

### **THE PATENTS**

24. On July 22, 2003, United States Patent No. 6,598,148 (“the ‘148 patent”) was duly and legally issued for an invention entitled “High Performance Microprocessor Having Variable Speed System Clock.” A true and correct copy of the ‘148 patent is attached hereto as Exhibit A.

25. On September 15, 1998, United States Patent No. 5,809,336 (“the ‘336 patent”) was duly and legally issued for an invention entitled “High Performance Microprocessor Having Variable Speed System Clock.” A true and correct copy of the ‘336 patent is attached hereto as Exhibit B.

26. On July 21, 1998, United States Patent No. 5,784,584 (“the ‘584 patent”) was duly and legally issued for an invention entitled “High Performance Microprocessor Using Instructions That Operate Within Instruction Groups.” A true and correct copy of the ‘584 patent is attached hereto as Exhibit C.

27. TPL is an owner of the right, title and interest to the ‘148 patent, the ‘336 patent, and the ‘584 patent (collectively, “the patents-in-suit”), has the exclusive right to enforce and license the patents-in-suit, and has standing to sue.

### INFRINGEMENT BY FUJITSU

28. Fujitsu has infringed and continues to infringe the patents-in-suit, and each of them, by its manufacture, use, sale, importation, and/or offer for sale of infringing products including Fujitsu microprocessors and microcontrollers and products embodying Fujitsu microprocessors and microcontrollers; and its contributing to and inducement of others to manufacture, use, sell, import, and/or offer for sale infringing products. Fujitsu is liable for its infringement of the patents-in-suit, and each of them, pursuant to 35 U.S.C. § 271.

29. Fujitsu General has infringed and continues to infringe the patents-in-suit, and each of them, by its manufacture, use, sale, importation, and/or offer for sale of infringing products including Fujitsu microprocessors and microcontrollers and products embodying Fujitsu microprocessors and microcontrollers; and its contributing to and inducement of others to manufacture, use, sell, import, and/or offer for sale infringing products. Fujitsu General is liable for its infringement of the patents-in-suit, and each of them, pursuant to 35 U.S.C. § 271.

30. Fujitsu Computer Products has infringed and continues to infringe the patents-in-suit, and each of them, by its manufacture, use, sale, importation, and/or offer for sale of infringing products including Fujitsu microprocessors and microcontrollers and products embodying Fujitsu microprocessors and microcontrollers; and its contributing to and inducement of others to manufacture, use, sell, import, and/or offer for sale infringing products. Fujitsu Computer Products is liable for its infringement of the patents-in-suit, and each of them, pursuant to 35 U.S.C. § 271.

31. Fujitsu Computer Systems has infringed and continues to infringe the patents-in-suit, and each of them, by its manufacture, use, sale, importation, and/or offer for sale of infringing products including Fujitsu microprocessors and microcontrollers and products embodying Fujitsu microprocessors and microcontrollers; and its contributing to and inducement of others to manufacture, use, sell, import, and/or offer for sale infringing products. Fujitsu Computer Systems is liable for its infringement of the patents-in-suit, and each of them, pursuant to 35 U.S.C. § 271.

32. Fujitsu Microelectronics has infringed and continues to infringe the patents-in-suit, and each of them, by its manufacture, use, sale, importation, and/or offer for sale of infringing products including Fujitsu microprocessors and microcontrollers and products embodying Fujitsu microprocessors and microcontrollers; and its contributing to and inducement of others to manufacture, use, sell, import, and/or offer for sale infringing products. Fujitsu Microelectronics is liable for its infringement of the patents-in-suit, and each of them, pursuant to 35 U.S.C. § 271.

33. Fujitsu Ten has infringed and continues to infringe the patents-in-suit, and each of them, by its manufacture, use, sale, importation, and/or offer for sale of infringing products including Fujitsu microprocessors and microcontrollers and products embodying Fujitsu microprocessors and microcontrollers; and its contributing to and inducement of others to manufacture, use, sell, import, and/or offer for sale infringing products. Fujitsu Ten is liable for its infringement of the patents-in-suit, and each of them, pursuant to 35 U.S.C. § 271.

34. Fujitsu's acts of infringement have caused damage to plaintiff and plaintiff is entitled to recover from Fujitsu the damages sustained by it as a result of Fujitsu's wrongful acts in an amount subject to proof at trial. Fujitsu's infringement of plaintiff's rights under the patents-in-suit will continue to damage plaintiff, causing irreparable harm for which there is no adequate remedy at law unless enjoined by this Court.

35. Fujitsu General's acts of infringement have caused damage to plaintiff and plaintiff is entitled to recover from Fujitsu the damages sustained by it as a result of Fujitsu's wrongful acts in an amount subject to proof at trial. Fujitsu General's infringement of plaintiff's rights under the patents-in-suit will continue to damage plaintiff, causing irreparable harm for which there is no adequate remedy at law unless enjoined by this Court.

36. Fujitsu Computer Products' acts of infringement have caused damage to plaintiff and plaintiff is entitled to recover from Fujitsu Computer Products the damages sustained by it as a result of Fujitsu's wrongful acts in an amount subject to proof at trial. Fujitsu Computer Products' infringement of plaintiff's rights under the patents-in-suit will continue to damage

plaintiff, causing irreparable harm for which there is no adequate remedy at law unless enjoined by this Court.

37. Fujitsu Computer Systems' acts of infringement have caused damage to plaintiff and plaintiff is entitled to recover from Fujitsu Computer Systems the damages sustained by it as a result of Fujitsu's wrongful acts in an amount subject to proof at trial. Fujitsu Computer Systems' infringement of plaintiff's rights under the patents-in-suit will continue to damage plaintiff, causing irreparable harm for which there is no adequate remedy at law unless enjoined by this Court.

38. Fujitsu Microelectronics' acts of infringement have caused damage to plaintiff and plaintiff is entitled to recover from Fujitsu Microelectronis the damages sustained by it as a result of Fujitsu Microelectronics' wrongful acts in an amount subject to proof at trial. Fujitsu Microelectronics' infringement of plaintiff's rights under the patents-in-suit will continue to damage plaintiff, causing irreparable harm for which there is no adequate remedy at law unless enjoined by this Court.

39. Fujitsu Ten's acts of infringement have caused damage to plaintiff and plaintiff is entitled to recover from Fujitsu Ten the damages sustained by it as a result of Fujitsu Ten's wrongful acts in an amount subject to proof at trial. Fujitsu Ten's infringement of plaintiff's rights under the patents-in-suit will continue to damage plaintiff, causing irreparable harm for which there is no adequate remedy at law unless enjoined by this Court.

40. Upon information and belief, Fujitsu's infringement of the patents-in-suit is willful and deliberate, entitling plaintiff to increased damages under 35 U.S.C. § 284 and to attorneys' fees and costs incurred in prosecuting this action under 35 U.S.C. § 285.

41. Upon information and belief, Fujitsu General's infringement of the patents-in-suit is willful and deliberate, entitling plaintiff to increased damages under 35 U.S.C. § 284 and to attorneys' fees and costs incurred in prosecuting this action under 35 U.S.C. § 285.

42. Upon information and belief, Fujitsu Computer Products' infringement of the patents-in-suit is willful and deliberate, entitling plaintiff to increased damages under 35 U.S.C. § 284 and to attorneys' fees and costs incurred in prosecuting this action under 35 U.S.C. § 285.

43. Upon information and belief, Fujitsu Computer Systems' infringement of the patents-in-suit is willful and deliberate, entitling plaintiff to increased damages under 35 U.S.C. § 284 and to attorneys' fees and costs incurred in prosecuting this action under 35 U.S.C. § 285.

44. Upon information and belief, Fujitsu Microelectronic's infringement of the patents-in-suit is willful and deliberate, entitling plaintiff to increased damages under 35 U.S.C. § 284 and to attorneys' fees and costs incurred in prosecuting this action under 35 U.S.C. § 285.

45. Upon information and belief, Fujitsu Ten's infringement of the patents-in-suit is willful and deliberate, entitling plaintiff to increased damages under 35 U.S.C. § 284 and to attorneys' fees and costs incurred in prosecuting this action under 35 U.S.C. § 285.

#### **INFRINGEMENT BY MATSUSHITA**

46. Matsushita has infringed and continues to infringe the patents-in-suit, and each of them, by its manufacture, use, sale, importation, and/or offer for sale of infringing products including Matsushita microprocessors and microcontrollers and products embodying Matsushita microprocessors and microcontrollers; and its contributing to and inducement of others to manufacture, use, sell, import, and/or offer for sale infringing products. Matsushita is liable for its infringement of the patents-in-suit, and each of them, pursuant to 35 U.S.C. § 271.

47. Panasonic has infringed and continues to infringe the patents-in-suit, and each of them, by its manufacture, use, sale, importation, and/or offer for sale of infringing products including Matsushita microprocessors and microcontrollers and products embodying Matsushita microprocessors and microcontrollers; and its contributing to and inducement of others to manufacture, use, sell, import, and/or offer for sale infringing products. Panasonic is liable for its infringement of the patents-in-suit, and each of them, pursuant to 35 U.S.C. § 271.

48. JVC has infringed and continues to infringe the patents-in-suit, and each of them, by its manufacture, use, sale, importation, and/or offer for sale of infringing products including Matsushita microprocessors and microcontrollers and products embodying Matsushita microprocessors and microcontrollers; and its contributing to and inducement of others to manufacture, use, sell, import, and/or offer for sale infringing products. JVC is liable for its infringement of the patents-in-suit, and each of them, pursuant to 35 U.S.C. § 271.

49. Matsushita's acts of infringement have caused damage to plaintiff and plaintiff is entitled to recover from Matsushita the damages sustained by it as a result of Matsushita's wrongful acts in an amount subject to proof at trial. Matsushita's infringement of plaintiff's rights under the patents-in-suit will continue to damage plaintiff, causing irreparable harm for which there is no adequate remedy at law unless enjoined by this Court.

50. Panasonic's acts of infringement have caused damage to plaintiff and plaintiff is entitled to recover from Panasonic the damages sustained by it as a result of Panasonic's wrongful acts in an amount subject to proof at trial. Panasonic's infringement of plaintiff's rights under the patents-in-suit will continue to damage plaintiff, causing irreparable harm for which there is no adequate remedy at law unless enjoined by this Court.

51. JVC's acts of infringement have caused damage to plaintiff and plaintiff is entitled to recover from Matsushita the damages sustained by it as a result of JVC's wrongful acts in an amount subject to proof at trial. JVC's infringement of plaintiff's rights under the patents-in-suit will continue to damage plaintiff, causing irreparable harm for which there is no adequate remedy at law unless enjoined by this Court.

52. Upon information and belief, Matsushita's infringement of the patents-in-suit is willful and deliberate, entitling plaintiff to increased damages under 35 U.S.C. § 284 and to attorneys' fees and costs incurred in prosecuting this action under 35 U.S.C. § 285.

53. Upon information and belief, Panasonic's infringement of the patents-in-suit is willful and deliberate, entitling plaintiff to increased damages under 35 U.S.C. § 284 and to attorneys' fees and costs incurred in prosecuting this action under 35 U.S.C. § 285.

54. Upon information and belief, JVC's infringement of the patents-in-suit is willful and deliberate, entitling plaintiff to increased damages under 35 U.S.C. § 284 and to attorneys' fees and costs incurred in prosecuting this action under 35 U.S.C. § 285.

#### **INFRINGEMENT BY NEC**

55. NEC has infringed and continues to infringe the patents-in-suit, and each of them, by its manufacture, use, sale, importation, and/or offer for sale of infringing products including NEC microprocessors and microcontrollers and products embodying NEC microprocessors and

microcontrollers; and its contributing to and inducement of others to manufacture, use, sell, import, and/or offer for sale infringing products. NEC is liable for its infringement of the patents-in-suit, and each of them, pursuant to 35 U.S.C. § 271.

56. NEC Electronics has infringed and continues to infringe the patents-in-suit, and each of them, by its manufacture, use, sale, importation, and/or offer for sale of infringing products including NEC microprocessors and microcontrollers and products embodying NEC microprocessors and microcontrollers; and its contributing to and inducement of others to manufacture, use, sell, import, and/or offer for sale infringing products. NEC Electronics is liable for its infringement of the patents-in-suit, and each of them, pursuant to 35 U.S.C. § 271.

57. NEC America has infringed and continues to infringe the patents-in-suit, and each of them, by its manufacture, use, sale, importation, and/or offer for sale of infringing products including NEC microprocessors and microcontrollers and products embodying NEC microprocessors and microcontrollers; and its contributing to and inducement of others to manufacture, use, sell, import, and/or offer for sale infringing products. NEC America is liable for its infringement of the patents-in-suit, and each of them, pursuant to 35 U.S.C. § 271.

58. NEC Display has infringed and continues to infringe the patents-in-suit, and each of them, by its manufacture, use, sale, importation, and/or offer for sale of infringing products including NEC microprocessors and microcontrollers and products embodying NEC microprocessors and microcontrollers; and its contributing to and inducement of others to manufacture, use, sell, import, and/or offer for sale infringing products. NEC Display is liable for its infringement of the patents-in-suit, and each of them, pursuant to 35 U.S.C. § 271.

59. NEC Solutions has infringed and continues to infringe the patents-in-suit, and each of them, by its manufacture, use, sale, importation, and/or offer for sale of infringing products including NEC microprocessors and microcontrollers and products embodying NEC microprocessors and microcontrollers; and its contributing to and inducement of others to manufacture, use, sell, import, and/or offer for sale infringing products. NEC Solutions is liable for its infringement of the patents-in-suit, and each of them, pursuant to 35 U.S.C. § 271.



60. NEC Unified has infringed and continues to infringe the patents-in-suit, and each of them, by its manufacture, use, sale, importation, and/or offer for sale of infringing products including NEC microprocessors and microcontrollers and products embodying NEC microprocessors and microcontrollers; and its contributing to and inducement of others to manufacture, use, sell, import, and/or offer for sale infringing products. NEC Unified is liable for its infringement of the patents-in-suit, and each of them, pursuant to 35 U.S.C. § 271.

61. NEC's acts of infringement have caused damage to plaintiff and plaintiff is entitled to recover from NEC the damages sustained by it as a result of NEC's wrongful acts in an amount subject to proof at trial. NEC's infringement of plaintiff's rights under the patents-in-suit will continue to damage plaintiff, causing irreparable harm for which there is no adequate remedy at law unless enjoined by this Court.

62. NEC Electronics' acts of infringement have caused damage to plaintiff and plaintiff is entitled to recover from NEC Electronics the damages sustained by it as a result of NEC Electronics' wrongful acts in an amount subject to proof at trial. NEC Electronics' infringement of plaintiff's rights under the patents-in-suit will continue to damage plaintiff, causing irreparable harm for which there is no adequate remedy at law unless enjoined by this Court.

63. NEC America's acts of infringement have caused damage to plaintiff and plaintiff is entitled to recover from NEC America the damages sustained by it as a result of NEC America's wrongful acts in an amount subject to proof at trial. NEC America's infringement of plaintiff's rights under the patents-in-suit will continue to damage plaintiff, causing irreparable harm for which there is no adequate remedy at law unless enjoined by this Court.

64. NEC Display's acts of infringement have caused damage to plaintiff and plaintiff is entitled to recover from NEC Display the damages sustained by it as a result of NEC Display's wrongful acts in an amount subject to proof at trial. NEC Display's infringement of plaintiff's rights under the patents-in-suit will continue to damage plaintiff, causing irreparable harm for which there is no adequate remedy at law unless enjoined by this Court.



65. NEC Solutions' acts of infringement have caused damage to plaintiff and plaintiff is entitled to recover from NEC Solutions the damages sustained by it as a result of NEC Solutions' wrongful acts in an amount subject to proof at trial. NEC Solutions' infringement of plaintiff's rights under the patents-in-suit will continue to damage plaintiff, causing irreparable harm for which there is no adequate remedy at law unless enjoined by this Court.

66. NEC Unified's acts of infringement have caused damage to plaintiff and plaintiff is entitled to recover from NEC Unified the damages sustained by it as a result of NEC Unified's wrongful acts in an amount subject to proof at trial. NEC Unified's infringement of plaintiff's rights under the patents-in-suit will continue to damage plaintiff, causing irreparable harm for which there is no adequate remedy at law unless enjoined by this Court.

67. Upon information and belief, NEC's infringement of the patents-in-suit is willful and deliberate, entitling plaintiff to increased damages under 35 U.S.C. § 284 and to attorneys' fees and costs incurred in prosecuting this action under 35 U.S.C. § 285.

68. Upon information and belief, NEC Electronics' infringement of the patents-in-suit is willful and deliberate, entitling plaintiff to increased damages under 35 U.S.C. § 284 and to attorneys' fees and costs incurred in prosecuting this action under 35 U.S.C. § 285.

69. Upon information and belief, NEC America's infringement of the patents-in-suit is willful and deliberate, entitling plaintiff to increased damages under 35 U.S.C. § 284 and to attorneys' fees and costs incurred in prosecuting this action under 35 U.S.C. § 285.

70. Upon information and belief, NEC Display's infringement of the patents-in-suit is willful and deliberate, entitling plaintiff to increased damages under 35 U.S.C. § 284 and to attorneys' fees and costs incurred in prosecuting this action under 35 U.S.C. § 285.

71. Upon information and belief, NEC Solutions' infringement of the patents-in-suit is willful and deliberate, entitling plaintiff to increased damages under 35 U.S.C. § 284 and to attorneys' fees and costs incurred in prosecuting this action under 35 U.S.C. § 285.

72. Upon information and belief, NEC Unified's infringement of the patents-in-suit is willful and deliberate, entitling plaintiff to increased damages under 35 U.S.C. § 284 and to attorneys' fees and costs incurred in prosecuting this action under 35 U.S.C. § 285.

**INFRINGEMENT BY TOSHIBA**

73. Toshiba has infringed and continues to infringe the patents-in-suit, and each of them, by its manufacture, use, sale, importation, and/or offer for sale of infringing products including Toshiba microprocessors and microcontrollers and products embodying Toshiba microprocessors and microcontrollers; and its contributing to and inducement of others to manufacture, use, sell, import, and/or offer for sale infringing products. Toshiba is liable for its infringement of the patents-in-suit, and each of them, pursuant to 35 U.S.C. § 271.

74. Toshiba America has infringed and continues to infringe the patents-in-suit, and each of them, by its manufacture, use, sale, importation, and/or offer for sale of infringing products including Toshiba microprocessors and microcontrollers and products embodying Toshiba microprocessors and microcontrollers; and its contributing to and inducement of others to manufacture, use, sell, import, and/or offer for sale infringing products. Toshiba America is liable for its infringement of the patents-in-suit, and each of them, pursuant to 35 U.S.C. § 271.

75. Toshiba Electronic has infringed and continues to infringe the patents-in-suit, and each of them, by its manufacture, use, sale, importation, and/or offer for sale of infringing products including Toshiba microprocessors and microcontrollers and products embodying Toshiba microprocessors and microcontrollers; and its contributing to and inducement of others to manufacture, use, sell, import, and/or offer for sale infringing products. Toshiba Electronic is liable for its infringement of the patents-in-suit, and each of them, pursuant to 35 U.S.C. § 271.

76. Toshiba Information has infringed and continues to infringe the patents-in-suit, and each of them, by its manufacture, use, sale, importation, and/or offer for sale of infringing products including Toshiba microprocessors and microcontrollers and products embodying Toshiba microprocessors and microcontrollers; and its contributing to and inducement of others to manufacture, use, sell, import, and/or offer for sale infringing products. Toshiba Information is liable for its infringement of the patents-in-suit, and each of them, pursuant to 35 U.S.C. § 271.

77. Toshiba Consumer has infringed and continues to infringe the patents-in-suit, and each of them, by its manufacture, use, sale, importation, and/or offer for sale of infringing products including Toshiba microprocessors and microcontrollers and products embodying

Toshiba microprocessors and microcontrollers; and its contributing to and inducement of others to manufacture, use, sell, import, and/or offer for sale infringing products. Toshiba Consumer is liable for its infringement of the patents-in-suit, and each of them, pursuant to 35 U.S.C. § 271.

78. Toshiba's acts of infringement have caused damage to plaintiff and plaintiff is entitled to recover from Toshiba the damages sustained by it as a result of Toshiba's wrongful acts in an amount subject to proof at trial. Toshiba's infringement of plaintiff's rights under the patents-in-suit will continue to damage plaintiff, causing irreparable harm for which there is no adequate remedy at law unless enjoined by this Court.

79. Toshiba America's acts of infringement have caused damage to plaintiff and plaintiff is entitled to recover from Toshiba America the damages sustained by it as a result of Toshiba America's wrongful acts in an amount subject to proof at trial. Toshiba America's infringement of plaintiff's rights under the patents-in-suit will continue to damage plaintiff, causing irreparable harm for which there is no adequate remedy at law unless enjoined by this Court.

80. Toshiba Electronic's acts of infringement have caused damage to plaintiff and plaintiff is entitled to recover from Toshiba Electronic the damages sustained by it as a result of Toshiba Electronic's wrongful acts in an amount subject to proof at trial. Toshiba Electronic's infringement of plaintiff's rights under the patents-in-suit will continue to damage plaintiff, causing irreparable harm for which there is no adequate remedy at law unless enjoined by this Court.

81. Toshiba Information's acts of infringement have caused damage to plaintiff and plaintiff is entitled to recover from Toshiba Information the damages sustained by it as a result of Toshiba Information's wrongful acts in an amount subject to proof at trial. Toshiba Information's infringement of plaintiff's rights under the patents-in-suit will continue to damage plaintiff, causing irreparable harm for which there is no adequate remedy at law unless enjoined by this Court.

82. Toshiba Consumer's acts of infringement have caused damage to plaintiff and plaintiff is entitled to recover from Toshiba Consumer the damages sustained by it as a result of

Toshiba 's wrongful acts in an amount subject to proof at trial. Toshiba Consumer's infringement of plaintiff's rights under the patents-in-suit will continue to damage plaintiff, causing irreparable harm for which there is no adequate remedy at law unless enjoined by this Court.

83. Upon information and belief, Toshiba's infringement of the patents-in-suit is willful and deliberate, entitling plaintiff to increased damages under 35 U.S.C. § 284 and to attorneys' fees and costs incurred in prosecuting this action under 35 U.S.C. § 285.

84. Upon information and belief, Toshiba America's infringement of the patents-in-suit is willful and deliberate, entitling plaintiff to increased damages under 35 U.S.C. § 284 and to attorneys' fees and costs incurred in prosecuting this action under 35 U.S.C. § 285.

85. Upon information and belief, Toshiba Electronic's infringement of the patents-in-suit is willful and deliberate, entitling plaintiff to increased damages under 35 U.S.C. § 284 and to attorneys' fees and costs incurred in prosecuting this action under 35 U.S.C. § 285 \

86. Upon information and belief, Toshiba Information's infringement of the patents-in-suit is willful and deliberate, entitling plaintiff to increased damages under 35 U.S.C. § 284 and to attorneys' fees and costs incurred in prosecuting this action under 35 U.S.C. § 285.

87. Upon information and belief, Toshiba Consumer's infringement of the patents-in-suit is willful and deliberate, entitling plaintiff to increased damages under 35 U.S.C. § 284 and to attorneys' fees and costs incurred in prosecuting this action under 35 U.S.C. § 285.

#### **PRAYER FOR RELIEF**

WHEREFORE, plaintiff requests entry of judgment in its favor and against defendants, and each of them, as follows:

- a) An award of damages adequate to compensate plaintiff for the infringement alleged herein, together with prejudgment interest thereon;
- b) Enhanced damages pursuant to 35 U.S.C. § 284;
- c) An award of attorneys' fees pursuant to 35 U.S.C. § 285 or as otherwise permitted by law;

d) A permanent injunction prohibiting defendants and their respective officers, agents, employees and those acting in privity with them, from further infringement of the patents-in-suit;

e) Costs of suit; and

f) For such other and further relief as the Court may deem just and proper.

DATED: October 24, 2005

Respectfully submitted,

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Attorneys for Plaintiff  
TECHNOLOGY PROPERTIES LIMITED, INC

**DEMAND FOR JURY TRIAL**

Plaintiff TPL hereby demands trial by jury of all issues so triable in this matter.

DATED: October 24, 2005

Respectfully submitted,

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Attorneys for Plaintiff  
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## Exhibit B

**UNITED STATES DISTRICT COURT  
EASTERN DISTRICT OF TEXAS  
MARSHALL DIVISION**

TECHNOLOGY PROPERTIES LIMITED  
and PATRIOT SCIENTIFIC CORPORATION,

Plaintiffs,

v.

MATSUSHITA ELECTRIC INDUSTRIAL  
CO., LTD.; PANASONIC CORPORATION OF  
NORTH AMERICA; JVC AMERICAS CORP.;  
NEC ELECTRONICS AMERICA, INC.;  
TOSHIBA CORPORATION; TOSHIBA  
AMERICA, INC.; TOSHIBA AMERICA  
ELECTRONIC COMPONENTS, INC.;  
TOSHIBA AMERICA INFORMATION  
SYSTEMS, INC.; and TOSHIBA AMERICA  
CONSUMER PRODUCTS, LLC,

Defendants.

Civil Action No. 2-05CV-494 (TJW)

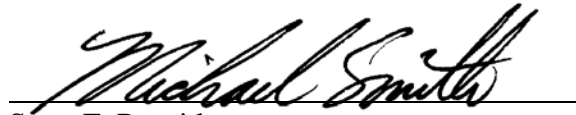
**NOTICE OF FILING DEFENDANTS' TECHNOLOGY TUTORIAL**

It is hereby certified that Defendants herein filed this Notice of Filing Technology  
Tutorial on the 25<sup>th</sup> day of April, 2007.



April 25, 2007

Respectfully submitted on behalf of all Defendants,

A handwritten signature in black ink, appearing to read "Michael A. Hawes", is written over a horizontal line.

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**CERTIFICATE OF SERVICE**

The undersigned hereby certifies that all counsel of record who are deemed to have consented to electronic service are being served with a copy of this document via the Court's CM/ECF system per Local Rule CV-5(a)(3) this 25<sup>th</sup> day of April, 2007. Any other counsel of record will be served by facsimile transmission and/or first class mail.

A handwritten signature in black ink, reading "Michael C. Smith", written in a cursive style. The signature is positioned above a horizontal line.

Michael C. Smith

## Exhibit C

**IN THE UNITED STATES DISTRICT COURT  
FOR THE EASTERN DISTRICT OF TEXAS  
MARSHALL DIVISION**

TECHNOLOGY PROPERTIES LTD. and	§	
PATRIOT SCIENTIFIC CORP.,	§	
Plaintiffs,	§	
	§	
vs.	§	CIVIL ACTION NO. 2:05-CV-494 (TJW)
	§	
MATSUSHITA ELECTRIC INDUSTRIAL	§	
CO., LTD., ET AL.,	§	
Defendants.	§	
	§	
	§	

**MEMORANDUM OPINION AND ORDER**

After considering the submissions and the arguments of counsel, the Court issues the following order concerning the claim construction issues:

**I. Introduction**

Plaintiffs Technology Properties Limited (“TPL”) and Patriot Scientific Corp. accuse multiple defendants of infringing United States Patent Nos. 5,809,336 (“the ‘336 patent”) entitled “High Performance Microprocessor Having Variable Speed System Clock,” 6,598,148 (“the ‘148 patent”) entitled “High Performance Microprocessor Having Variable Speed System Clock,” and 5,784,584 (“the ‘584 patent”) entitled “High Performance Microprocessor Using Instructions that Operate within Instruction Groups.” This opinion resolves the parties’ various claim construction disputes.

**II. Background of the Technology**

The ‘336 patent discloses a mechanism to improve the speed of microprocessor operations. First, a variable speed clock circuit is fabricated on the same chip as the microprocessor. By placing

the clock circuitry on the microprocessor, the clock will be subject to the same variations in operating conditions as the microprocessor. Second, the slower input/output clock is separated from the system clock.

The '148 patent also discloses a mechanism to improve the speed of the microprocessor. In addition to the on-chip clock described in the '336 patent, the microprocessor of the '148 patent includes memory on a majority of the microprocessor substrate.

The '584 patent addresses a bottleneck problem where the computing speed of the microprocessor depends on how quickly instructions can be loaded from memory into the instruction register of the microprocessor. Microprocessors can only process instructions as fast as the instructions can be loaded from the memory. The '584 patent discloses improvements on how to fetch and decode instructions. This is accomplished by arranging certain instructions into a group and fetching the entire group of instructions into the instruction register. As a result, the microprocessor no longer needs to wait for those instructions to be loaded from memory into the instruction register.

### **III. General Principles Governing Claim Construction**

“A claim in a patent provides the metes and bounds of the right which the patent confers on the patentee to exclude others from making, using or selling the protected invention.” *Burke, Inc. v. Bruno Indep. Living Aids, Inc.*, 183 F.3d 1334, 1340 (Fed. Cir. 1999). Claim construction is an issue of law for the court to decide. *Markman v. Westview Instruments, Inc.*, 52 F.3d 967, 970-71 (Fed. Cir. 1995) (en banc), *aff'd*, 517 U.S. 370 (1996).

To ascertain the meaning of claims, the court looks to three primary sources: the claims, the specification, and the prosecution history. *Markman*, 52 F.3d at 979. Under the patent law, the

specification must contain a written description of the invention that enables one of ordinary skill in the art to make and use the invention. A patent's claims must be read in view of the specification, of which they are a part. *Id.* For claim construction purposes, the description may act as a sort of dictionary, which explains the invention and may define terms used in the claims. *Id.* "One purpose for examining the specification is to determine if the patentee has limited the scope of the claims." *Watts v. XL Sys., Inc.*, 232 F.3d 877, 882 (Fed. Cir. 2000).

Nonetheless, it is the function of the claims, not the specification, to set forth the limits of the patentee's claims. Otherwise, there would be no need for claims. *SRI Int'l v. Matsushita Elec. Corp.*, 775 F.2d 1107, 1121 (Fed. Cir. 1985) (en banc). The patentee is free to be his own lexicographer, but any special definition given to a word must be clearly set forth in the specification. *Intellicall, Inc. v. Phonometrics*, 952 F.2d 1384, 1388 (Fed. Cir. 1992). And, although the specification may indicate that certain embodiments are preferred, particular embodiments appearing in the specification will not be read into the claims when the claim language is broader than the embodiments. *Electro Med. Sys., S.A. v. Cooper Life Sciences, Inc.*, 34 F.3d 1048, 1054 (Fed. Cir. 1994).

This Court's claim construction decision must be informed by the Federal Circuit's decision in *Phillips v. AWH Corporation*, 415 F.3d 1303 (Fed. Cir. 2005) (en banc). In *Phillips*, the court set forth several guideposts that courts should follow when construing claims. In particular, the court reiterated that "the *claims* of a patent define the invention to which the patentee is entitled the right to exclude." 415 F.3d at 1312 (emphasis added) (*quoting Innova/Pure Water, Inc. v. Safari Water Filtration Systems, Inc.*, 381 F.3d 1111, 1115 (Fed. Cir. 2004)). To that end, the words used in a claim are generally given their ordinary and customary meaning. *Id.* The ordinary and customary

meaning of a claim term “is the meaning that the term would have to a person of ordinary skill in the art in question at the time of the invention, i.e., as of the effective filing date of the patent application.” *Id.* at 1313. This principle of patent law flows naturally from the recognition that inventors are usually persons who are skilled in the field of the invention. The patent is addressed to and intended to be read by others skilled in the particular art. *Id.*

The primacy of claim terms notwithstanding, *Phillips* made clear that “the person of ordinary skill in the art is deemed to read the claim term not only in the context of the particular claim in which the disputed term appears, but in the context of the entire patent, including the specification.” *Id.* Although the claims themselves may provide guidance as to the meaning of particular terms, those terms are part of “a fully integrated written instrument.” *Id.* at 1315 (quoting *Markman*, 52 F.3d at 978). Thus, the *Phillips* court emphasized the specification as being the primary basis for construing the claims. *Id.* at 1314-17. As the Supreme Court stated long ago, “in case of doubt or ambiguity it is proper in all cases to refer back to the descriptive portions of the specification to aid in solving the doubt or in ascertaining the true intent and meaning of the language employed in the claims.” *Bates v. Coe*, 98 U.S. 31, 38 (1878). In addressing the role of the specification, the *Phillips* court quoted with approval its earlier observations from *Renishaw PLC v. Marposs Societa’ per Azioni*, 158 F.3d 1243, 1250 (Fed. Cir. 1998):

Ultimately, the interpretation to be given a term can only be determined and confirmed with a full understanding of what the inventors actually invented and intended to envelop with the claim. The construction that stays true to the claim language and most naturally aligns with the patent’s description of the invention will be, in the end, the correct construction.

Consequently, *Phillips* emphasized the important role the specification plays in the claim construction process.

The prosecution history also continues to play an important role in claim interpretation. The prosecution history helps to demonstrate how the inventor and the PTO understood the patent. *Phillips*, 415 F.3d at 1317. Because the file history, however, “represents an ongoing negotiation between the PTO and the applicant,” it may lack the clarity of the specification and thus be less useful in claim construction proceedings. *Id.* Nevertheless, the prosecution history is intrinsic evidence. That evidence is relevant to the determination of how the inventor understood the invention and whether the inventor limited the invention during prosecution by narrowing the scope of the claims.

*Phillips* rejected any claim construction approach that sacrificed the intrinsic record in favor of extrinsic evidence, such as dictionary definitions or expert testimony. The *en banc* court condemned the suggestion made by *Texas Digital Systems, Inc. v. Telegenix, Inc.*, 308 F.3d 1193 (Fed. Cir. 2002), that a court should discern the ordinary meaning of the claim terms (through dictionaries or otherwise) before resorting to the specification for certain limited purposes. *Id.* at 1319-24. The approach suggested by *Texas Digital*—the assignment of a limited role to the specification—was rejected as inconsistent with decisions holding the specification to be the best guide to the meaning of a disputed term. *Id.* at 1320-21. According to *Phillips*, reliance on dictionary definitions at the expense of the specification had the effect of “focus[ing] the inquiry on the abstract meaning of words rather than on the meaning of the claim terms within the context of the patent.” *Id.* at 1321. *Phillips* emphasized that the patent system is based on the proposition that the claims cover only the invented subject matter. *Id.* What is described in the claims flows from the statutory requirement imposed on the patentee to describe and particularly claim what he or she has invented. *Id.* The definitions found in dictionaries, however, often flow from the editors’



objective of assembling all of the possible definitions for a word. *Id.* at 1321-22.

*Phillips* does not preclude all uses of dictionaries in claim construction proceedings. Instead, the court assigned dictionaries a role subordinate to the intrinsic record. In doing so, the court emphasized that claim construction issues are not resolved by any magic formula. The court did not impose any particular sequence of steps for a court to follow when it considers disputed claim language. *Id.* at 1323-25. Rather, *Phillips* held that a court must attach the appropriate weight to the intrinsic sources offered in support of a proposed claim construction, bearing in mind the general rule that the claims measure the scope of the patent grant. The court now turns to a discussion of the relevant claim terms.

#### **IV. Discussion**

Claim 1 of the '336 patent, Claim 1 of the '148 patent, and Claim 29 of the '584 patent are representative of how the terms in dispute are used in the asserted claims. Claim 1 of the '336 patent is an independent apparatus claim. It provides:

A microprocessor system, comprising a single integrated circuit including a central processing unit and an entire ring oscillator variable speed system clock in said single integrated circuit and connected to said central processing unit for clocking said central processing unit, said central processing unit and said ring oscillator variable speed system clock each including a plurality of electronic devices correspondingly constructed of the same process technology with corresponding manufacturing variations, a processing frequency capability of said central processing unit and a speed of said ring oscillator variable speed system clock varying together due to said manufacturing variations and due to at least operating voltage and temperature of said single integrated circuit; an on-chip input/output interface connected to exchange coupling control signals, addresses and data with said central processing unit; and a second clock independent of said ring oscillator variable speed system clock connected to said input/output interface.

Claim 1 of the '148 patent is an independent apparatus claim. It provides:

A microprocessor integrated circuit comprising:

a program-controlled processing unit operative in accordance with a sequence of program

instructions;

a memory coupled to said processing unit and capable of storing information provided by said processing unit;

a plurality of column latches coupled to the processing unit and the memory, wherein, during a read operation, a row of bits are read from the memory and stored in the column latch; and

a variable speed system clock having an output coupled to said processing unit;

said processing unit, said variable speed system clock, said plurality of column latches, and said memory fabricated on a single substrate, said memory using a greater area of said single substrate than said processing unit, said memory further using a majority of a total area of said single substrate.

Claim 29 of the '584 patent is a method claim. It provides:

In a microprocessor system including a central processing unit, memory, and an instruction register, a method for providing instructions and operands from said memory to said central processing unit comprising the steps of:

providing instruction groups to said instruction register from said memory wherein certain of said instruction groups include at least one instruction that, when executed, causes an access to an operand or an instruction or both, said operand or instruction being located at a predetermined position from a boundary of said instruction groups;

decoding said at least one instruction to determine said predetermined position;

locating said predetermined position; and

supplying, from said instruction groups, using the predetermined location, said operand or instruction or both to said central processing unit.

#### **A. Agreed Construction**

The parties have agreed to the construction of the following terms.

##### **1. '336 Patent**

“Oscillator” means “a circuit capable of maintaining an alternating output.”

“On-chip input/output interface” means “a circuit having logic for input/output

communications, where that circuit is located on the same semiconductor substrate as the CPU (claims 1-2, 6-10) or the microprocessor (claims 3-5).”

“Integrated circuit” means “a miniature circuit on a single semiconductor substrate.”

“External memory bus” means “a group of conductors coupled between the I/O interface and an external storage device.”

## **2. ‘148 Patent**

“Integrated circuit substrate” means “a single supporting material upon or within which is formed a miniature circuit.”

## **3. ‘584 Patent**

“Instruction” means “a command to a processor that tells the processor what operation to perform.”

“Boundary of said instruction groups” means “beginning or end of an instruction group.”

“Supplying, from said instruction groups, using the predetermined location, said operand or instruction or both to said central processing unit” means “using the results of the locating step in the step of transferring the bits from the accessed operand or instruction to the central processing unit.”

“Instruction register” means “a hardware element that receives and holds an instruction group as it is extracted from memory; the register either contains or is connected to circuits that interpret the instructions in the group.”

**B. Disputed Constructions****1. '336 Patent****a. "central processing unit"**

The first term for construction is "central processing unit." The plaintiffs propose "an electronic circuit that controls the interpretation and execution of programmed instructions." The defendants propose "the central electronic circuit in a computer that controls the interpretation and execution of programmed instructions." There are two main disputes - 1) whether the circuit needs to be in a computer and 2) whether the circuit needs to be the "central electronic circuit."

In support of their construction, the plaintiffs argue that the specification teaches that the microprocessor can be used in applications other than a computer (e.g., HDTV and automobiles). '336 patent, 9:61-10:12. The plaintiffs also observe that the specification states that the microprocessor can be part of a multiprocessor system and, therefore, no one CPU is the "central electronic circuit" for the computer. *See* '336 patent, 11:64-12:4. The defendants, on the other hand, argue that they did not intend to limit the use of the CPU to a computer. They assert, however, that a CPU must be part of a computer chip.

The parties appear to agree that one of ordinary skill in the art would understand that a computer chip or other integrated circuit can be used in various devices, such as automobiles or televisions. The Court construes the term to mean "an electronic circuit on an integrated circuit that controls the interpretation and execution of programmed instructions."

**b. "microprocessor"**

The plaintiffs propose "an electronic circuit that executes programmed instructions and is capable of interfacing with input/output circuitry and/or memory circuitry." The defendants propose

“an electronic circuit that uses a central processing unit to interpret and execute programmed instructions.” The main disputes are whether the microprocessor must be capable of interfacing with input/output circuitry and/or memory circuitry, and whether the microprocessor needs to use a central processing unit.

The plaintiffs argue that the patent discloses a microprocessor that communicates with memory circuitry. ‘336 patent, 8:56-58, 11:49-54. The plaintiffs also argue that the claim language does not support the fact that a microprocessor is required to use a central processing unit because claim 3 does not recite the use of a central processing unit whereas all other independent claims require the use of a central processing unit.

The defendants argue that one of ordinary skill in the art would understand that microprocessors include a central processing unit. In addition, the defendants contend that not all microprocessors need to interface with input/output circuitry because some microprocessors communicate solely with external memory. The defendants also contend that microprocessors do not need to connect to external memory because some microprocessors rely solely on on-chip memory.

The Court is not persuaded that the additional limitations proposed by the plaintiffs or the defendants are appropriate. The input/output interface and the central processing unit limitations are included in other portions of the claims and, therefore, adding those limitations to the construction would be superfluous. *See, e.g.*, ‘336 patent, 32:12-13, 25-26. The Court construes “microprocessor” to mean “an electronic circuit that interprets and executes programmed instructions.”

**c. “ring oscillator”**

The next term is “ring oscillator.” The plaintiffs contend that this term means “an oscillator having a multiple, odd number of inversions arranged in a loop.” The defendants propose “an [oscillator] having an odd number of inverting logic stages connected in a loop.” The main dispute is whether a ring oscillator is required to have multiple inverters or whether it can have just one.

The plaintiffs argue that a single inverter would not be appropriate because it could not maintain an oscillating output. The defendants, on the other hand, rely on extrinsic evidence to support their proposed construction. Specifically, the defendants cite to a semiconductor textbook depicting a ring oscillator with only one inverter.

The plaintiffs have the better argument. The extrinsic evidence cited by the defendants also supports the plaintiffs’ construction. It states that timers are built as “chains of inverters,” not just one inverter. Defendants’ Claim Construction Brief, Ex. U, MEAD & CONWAY, INTRODUCTION TO VLSI SYSTEMS (1980), at 234. Accordingly, the Court adopts the plaintiffs’ proposed construction.

**d. “an entire ring oscillator variable speed system clock in said integrated circuit”**

The plaintiffs argue that this term means “a ring oscillator that generates the signal(s) used for timing the operation of the CPU, capable of operating at speeds that can change, where the ring oscillator is located entirely on the same semiconductor substrate as the CPU.” The defendants’ proposed construction is “a [ring oscillator variable speed system clock] that is completely on-chip and does not rely on a control signal or an external crystal/clock generator.” The dispute is whether the ring oscillator may rely on a control signal or an external crystal/clock generator.

In support of their construction, the defendants argue that the applicant disclaimed use of a

control signal and a external crystal/clock generator in order to distinguish over prior art. The plaintiffs contend that it did not disclaim all types of control signals, such as voltage and current controlled oscillators; there was only a disclaimer of the more narrow “command input.” In addition, the plaintiffs argue that, although an external crystal is not directly used to generate a system clock signal, the external crystal can be used as a reference signal to account for delay across certain circuit elements.

The Court agrees with the defendants that the applicant disclaimed the use of an input control signal and an external crystal/clock generator to generate a clock signal. *See* Response to Office Action, April 11, 1996, at 8; Response to Office Action, January 13, 1997, at 4; Response to Office Action, July 7, 1997, at 3-4. Accordingly, the Court construes the term to mean “a ring oscillator variable speed system clock that is located entirely on the same semiconductor substrate as the CPU and does not directly rely on a command input control signal or an external crystal/clock generator to generate a clock signal.”

**e. “variable speed”**

The next term is “variable speed.” The plaintiffs’ proposed construction is “capable of operating at speeds that can change.” The defendants argue that the term means “a speed (frequency) that is not tightly controlled and varies more than minimally.”

The plaintiffs contend that the specification discloses a ring oscillator that is capable of operating at various speeds based on variations in operating conditions. ‘336 patent, 16:59-63. The plaintiffs also argue that the defendants’ proposed construction is too restrictive. The defendants, on the other hand, point to the prosecution where the applicant describes fixed-frequency as a speed that is “tightly controlled” and “var[ies] minimally.” Amendment, July 7, 1997, at 3-4. According

to the defendants, “variable speed” is the opposite of fixed-frequency.

Notwithstanding the defendants’ arguments, one of ordinary skill in the art would understand “variable speed” to describe a component capable of operating at different speeds. Accordingly, the Court construes the term to mean “capable of operating at different speeds.”

**f. “system clock” and “variable speed clock”<sup>1</sup>**

The plaintiffs propose “a circuit that generates the signal(s) used for timing the operation of the CPU.” The defendants contend that the term means “a circuit that is itself responsible for determining the frequency of the signal(s) used for timing the operation of the CPU.” The dispute is whether the circuit alone is responsible for determining the frequency of the signal.

A system clock does not generate the signal alone because the timing can be derived from the ring oscillator. ‘336 patent, 16:63-67. Accordingly, the Court adopts the plaintiffs’ proposed construction.

**g. “oscillator . . . clocking”**

The plaintiffs contend that no construction is necessary, but if a construction is required, they propose “the oscillator generates the signal(s) used for timing the operation of the CPU.” The defendants propose “an oscillator that is itself determining the frequency of the signal(s) used for timing.”

The Court agrees that the term requires construction. The Court construes the term to mean “an oscillator that generates the signal(s) used for timing the operation of the CPU.”

**h. “processing frequency”**

The plaintiffs propose “the speed at which the CPU operates.” The defendants propose

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<sup>1</sup> The parties appear to agree that these two terms should have the same construction.



“fastest safe operating speed.” The issue is whether the term refers to the “fastest safe operating speed.”

The plaintiffs contend that the specification uses the language “maximum possible frequency” with regard to one embodiment of the CPU. The plaintiffs also point out that “fastest safe operating speed” was mentioned in response to an office action. Response to Office Action, January 8, 1997, at 4. The response to the office action states that the present invention provides

a variable speed clock for the microprocessor, with the clock speed varying in the same way as variations in the operating characteristics of the electronic devices making up the microprocessor. This allows the microprocessor to operate at its fastest safe operating speed, given its manufacturing process or changes in its operating temperature or voltage. *Id.* at 3-4.

According to the plaintiffs, this does not mean that the CPU must operate at the fastest safe operating speed, but that it is capable of operating at its fastest safe operating speed.

In support of their proposed construction, the defendants point to the specification which states that the “CPU will always execute at the maximum frequency possible, but never too fast.” ‘336 patent, 17:1-2. The defendants also point to a portion of the prosecution history which states that

these claims further state that the plurality of transistors included within the ring oscillator clock have operating characteristics which vary similarly to operating characteristics of transistors included within the microprocessor, thereby enabling the processing frequency of the microprocessor to track the speed of the ring oscillator clock: ‘...CPU clock 70 executes at the fastest speed possible using the adaptive ring counter clock 430. Speed may vary by a factor of four depending upon temperature, voltage, and process. Response to Office Action, April 11, 1996, at 8-9.

Frequency is not limited to the fastest safe operating speed. The portion of the prosecution history cited by the defendants refers to varying the processing frequency based on operating

conditions. In the Court's view, the applicants did not clearly define or limit the term "processing frequency." Accordingly, the Court adopts the plaintiffs' proposed construction.

**i. "processing frequency capability"**

The plaintiffs propose "the range of speeds at which the CPU can operate." The defendants propose "fastest safe operating speed at which the CPU can operate."

As discussed in the previous section, "processing frequency" is not limited to the "fastest safe operating speed." In addition, "capability" is not limited to a range or to the fastest speed. Accordingly, the Court construes the term to mean "the speeds at which the CPU can operate."

**j. "varying together"<sup>2</sup>**

The next term is "varying together." The plaintiffs contend that the term means "both increase or both decrease." The defendants' proposed construction is "increasing and decreasing by the same amount." The dispute is whether this term is limited to "the same amount."

The defendants claim that the only way for the invention to work is to match the clock speed to the CPU's processing speed capability. According to the defendants, if the frequency capability increased from 50 MHz to 100 MHz but the clock rate only increased from 25 MHz to 150 MHz, then the CPU would not be operable. In addition, the defendants argue that there are numerous statements in the prosecution history stating that the processing frequency should "track" or "vary correspondingly with" the clock rate. *See* Response to Office Action, April 11, 1996, at 6, 8; Response to Office Action, January 8, 1997, at 4.

There is no limitation in the intrinsic evidence requiring the variation between the frequency

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<sup>2</sup> This construction would also include the terms "vary together," "varying . . . in the same way," and "varying in the same way."

capability and the clock to match exactly. The Court construes the term to mean “increasing and decreasing proportionally.”

**k. “second clock”**

The plaintiffs’ proposed construction is “a clock not derived from the first clock.” The defendants contend that no construction is necessary, but if construction is necessary, then they propose “another clock.”

The plaintiffs argue that the claims state that the second clock is independent of the first clock. According to the plaintiffs, a second clock derived from the first clock would not be independent as required by the claims.

The defendants appear to agree that the first clock is independent of the second clock. In any event, the independence of the second clock is required by the claim language. Accordingly, the Court declines to construe this term.

**l. “external clock”**

The plaintiffs propose “a clock not derived from the first clock, and which is not originated on the same semiconductor substrate upon which the entire variable speed clock is located.” The defendants contend that no construction is necessary, but if a construction is necessary, then they propose “a clock not on the integrated circuit substrate.”

As discussed previously, the defendants appear to agree that, like the second clock, the external clock is independent of the first clock. The plaintiffs’ proposed construction includes limitations already in the claims. The Court construes “external clock” to mean “a clock not on the integrated circuit substrate.”

**m. “second clock independent of said ring oscillator . . . system clock”  
and “second clock independent of the ring oscillator system clock”**

The plaintiffs propose “a change in the frequency of the ring oscillator does not affect the frequency of the second clock.” The defendants propose “a second clock wherein a change in the frequency of one of the second clock or the ring oscillator system clock does not affect the frequency of the other.” The dispute is whether the term “independent” means “one-way independence” or “two-way independence.”

The plaintiffs argue that the specification only refers to one-way independence because it describes the situation where the I/O clock has a fixed speed while the CPU clock has a variable speed. According to the plaintiffs, there is no discussion about the situation where the I/O clock speed can be modified without affecting the CPU clock speed; the specification only states that varying the CPU clock speed would not affect the I/O clock speed.

The defendants argue that the plaintiffs’ construction would conflict with the purpose of the invention of having a first clock function independently from the second clock. According to the defendants, the specification describes the first and second clock as functioning independently from one another.

The defendants have the better argument. One of ordinary skill in the art would understand the term “independence” to mean “two-way independence.” Accordingly, the Court construes the term to mean “a second clock wherein a change in the frequency of either the second clock or ring oscillator system clock does not affect the frequency of the other.”

**n. “external clock is operative at a frequency independent of a clock frequency of said oscillator”**

The plaintiffs propose “a change in the frequency of the oscillator (claims 6-9) or the variable

speed clock (claim 10) does not affect the frequency of the external clock.” The defendants propose “an external clock wherein a change in the frequency of one of the external clock or oscillator does not affect the frequency of the other (claim 6).”

The Court construes the term to mean “an external clock wherein a change in the frequency of either the external clock or oscillator does not affect the frequency of the other.”

**o. “fixed frequency”**

The plaintiffs contend that no construction is necessary, but if the court determines that a construction is needed, then they propose “a non-variable frequency.” The defendants propose “having a speed that is tightly controlled and varies minimally.” This term is not a technical term and can be understood according to its plain and ordinary meaning. Accordingly, the Court declines to construe this term.

**2. ‘148 Patent**

**a. “processing unit”**

The plaintiffs propose “an electronic circuit that controls the interpretation and execution of programmed instructions.” The defendants do not appear to dispute the plaintiffs’ proposal. Accordingly, the Court adopts the plaintiffs’ proposed construction.

**b. “memory” and “a memory”**

The plaintiffs propose “all of the storage elements on the substrate and the control circuitry configured to access the storage elements.” The defendants claim that this term is indefinite, but if construction is possible, they propose “an information storing array that does not include registers,

cache or column latches.”<sup>3</sup> The main dispute appears to be whether or not memory can include registers, cache, or column latches.

The defendants contend that “memory” and “column latches” must have different meanings because when two claim terms are used, they are presumed to mean different things. *See* ‘148 patent, claim 1. The defendants, therefore, argue that “memory” cannot include “column latches.” The defendants also point out that the specification recognizes that latches, registers and cache can exist within the CPU which is separate from the memory. *See* ‘148 patent, 4:5-10, 4:14-19, 5:58-60.

The plaintiffs contend that the specification describes DRAM to include registers and column latches. ‘148 patent, 8:65-9:4. The defendants, moreover, agree that registers, cache, and column latches may be considered part of the memory when they are included in the storage array. Defendants’ Responsive Claim Construction Brief, at 34.

In the Court’s view, the plaintiffs’ proposal is too broad because it would include storage elements that are within the CPU. On the other hand, the defendants’ proposed construction is too limiting because it would exclude registers and cache that one of ordinary skill in the art would consider to be types of memory. The claim language, however, does indicate that “memory” does not include “column latches.” “Memory” and “column latches” are two distinct elements in Claim 1 of the ‘148 patent. The claim also states, in relevant part, that “a plurality of column latches [is] coupled to . . . the memory . . . .” ‘148 patent, 31:11-12. If “memory” included “column latches,” then the claim would not need to specify that “column latches” are coupled to the “memory.” Accordingly, the Court construes “memory” to mean “storage elements other than column latches.”

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<sup>3</sup> The defendants do not present their arguments for indefiniteness in their claim construction briefing.

**c. “total area of said single substrate” or “total area of said substrate”**

The plaintiffs propose “the total surface of the supporting material upon or within which is formed an interconnected array of circuit elements.” The defendants propose “area enclosed by the outermost edges of the substrate.” This term is used in the context of memory which is claimed to occupy “a majority” of the “total area” of the substrate. The issue is what constitutes the “area.”

The plaintiffs argue that the defendants’ proposal would include areas of the substrate that are not being actively used (e.g., the sides and back of the substrate). According to the plaintiffs, the proper approach is to refer to the portion of the substrate that has active circuitry as depicted in Figure 9 of the ‘148 patent.

The area of the substrate refers to the top portion of the substrate, and not the sides or back. *See* ‘148 patent, Fig. 9. The Court construes the term to mean “the total top surface area of the substrate.”

**d. “area of said single substrate” or “area of said substrate”**

The Court construes this term to mean “the top surface area of the substrate.”

**e. “variable”**

This is not a technical term that requires construction and may be understood according to its plain and ordinary meaning. The Court declines to construe this term.

**f. “system clock”**

The Court adopts its previous construction of this term in the ‘336 patent. *See* Section IV(B)(1)(f).

**g. “ring oscillator”**

The Court adopts its previous construction of this term in the ‘336 patent. *See* Section IV(B)(1)(c).

**h. “a ring oscillator having a variable output frequency”**

The Court adopts its previous construction of “ring oscillator” in the ‘336 patent. *See* Section IV(B)(1)(c). No further construction of this term is necessary.

**i. “the [ring oscillator] disposed on said integrated circuit substrate”**

The Court adopts its previous construction of “ring oscillator” in the ‘336 patent. *See* Section IV(B)(1)(c). No further construction of this term is necessary.

**j. “interface ports for interprocessor communication”**

The plaintiffs contend that no construction is necessary. Alternatively, if a construction is needed, then the plaintiffs propose “channels through which data can be transferred between two separate processing units.” The defendants propose “channels through which data is transferred between two separate processing units.” The dispute is whether the interface ports may be used for purposes other than to transfer data.

The defendants argue that the plaintiffs’ construction would allow the interface ports to be used for any purpose and render the words “for interprocessor communication” meaningless. The plaintiffs contend that the specification describes interface ports for use other than interprocessor communication. *See* ‘148 patent, 9:64-10:12.

One of ordinary skill in the art would understand that interface ports are not limited solely to the transfer of data. The Court construes the term to mean “channels through which data is allowed to be transferred between two separate processing units.”



**3. '584 Patent**

**a. "microprocessor"**

The Court adopts its previous construction of this term in the '336 patent. *See* Section IV(B)(1)(b).

**b. "central processing unit"**

The Court adopts its previous construction of this term in the '336 patent. *See* Section IV(B)(1)(a).

**c. "instruction groups"**

The next term is "instruction groups." The plaintiffs' proposed construction is "sets of from 1 to a maximum number of sequential instructions, each set being provided to the instruction register as a unit and having a boundary." The defendants propose "sets of from 1 to a maximum number of sequential instructions, in which the execution of the instruction depends on each set being provided to the instruction register as a unit and in which any operand that is present must be right justified and which cannot encompass a single 32-bit traditional conventional instruction." The dispute is whether an operand that is present in the instruction group must be right justified and whether the instruction group may encompass a single 32-bit traditional conventional instruction.

The plaintiffs contend that right justified operands are a feature of the preferred embodiment. The plaintiffs also argue that the claim language was broadened during prosecution history when the language "selecting, in accordance with position in said instruction register of one of said instructions of one of said instruction groups, an operand from said one of said instruction groups" was removed from the claim. Amendment, June 12, 1997, at 6. In addition, the plaintiffs point out that the specification includes 32-bit instructions. *See* '584 patent, 20:41-42.

The defendants argue that the specification states that “operands must be right justified in the instruction register.” ‘584 patent, 16:15-16. In addition, the defendants argue that the applicants limited operands in this manner to overcome prior art rejections. *See* Amendment, June 17, 1997, at 13; Amendment, February 5, 1998, at 7. The defendants also contend that although the specification includes 32-bit instructions, the specification never identifies a *single* 32-bit instruction as instruction *groups*. According to the defendants, the specification defines “instruction group” as “being 8-bit and 16 or 24-bit instructions.” ‘584 patent, 23:4-7.

The specification and prosecution history refer to the fact that operands in the instruction register must be right justified. The applicants, however, did not exclude a single 32-bit instruction as an instruction group. In a preferred embodiment, a microprocessor fetches instructions “in 32-bit chunks called 4-byte instruction groups” where an “instruction group may contain from one to four instructions.” ‘584 patent, 23:4-5, 19:18-19. If a 4-byte (or 32-bit) instruction group contains one instruction, then the instruction group may contain a single 32-bit instruction. The Court construes “instruction groups” to mean “sets of from 1 to a maximum number of sequential instructions, each set being provided to the instruction register as a unit and having a boundary, and in which any operand that is present must be right justified.”

**d. “operand”**

The plaintiffs argue that the term means “an input to an operation specified by an instruction that is encoded as part of the instruction.” The defendants propose “an input to a single operation specified by an instruction that is encoded as part of the instruction where the size of the input can vary depending on the value of the input.”

The plaintiffs argue that the defendants’ proposed construction would exclude a preferred

embodiment which includes fixed length operands. *See* ‘584 patent, 29:62-27:7. However, the plaintiffs appear to agree that the size of the input can vary.

The intrinsic evidence does not show a clear limitation where the size of the input needs to vary depending on the value of the input. The Court construes the term to mean “an input to a single operation specified by an instruction that is encoded as part of the instruction where the size of the input can vary.”

**e. “said instruction groups include at least one instruction that, when executed, causes an access to an operand or instruction or both”**

The plaintiffs propose “the instruction being executed causes the CPU to use an immediate operand or execute a second instruction which is not the next sequential instruction.” The defendants’ proposed construction is “the instruction being executed causes the CPU to use data or execute a second instruction.” The main dispute is whether the second instruction can be the next sequential instruction.

The plaintiffs argue that one of ordinary skill in the art would regard the normal program flow of going from one instruction to the next sequential instruction as “causing an access to an instruction.” The defendants contend that the specification describes a SKIP instruction where the second instruction accessed is the next sequential instruction. ‘584 patent, 23:12-14. In reply, the plaintiffs contend that claim 29 refers to control flow instructions, not ordinary instructions.

The intrinsic evidence does not support the limitation proposed by the plaintiffs. Accordingly, the Court construes the term to mean “the instruction being executed causes the CPU to use an operand or execute a second instruction.”

**f. “said operand or instruction being located at a predetermined position from a boundary of said instruction groups”**

The plaintiffs propose “the immediate operand or the instruction that is accessed has a position, relative to the beginning or end of the instruction group that includes the operand or instruction being accessed, that is determined based on a portion of an accessing instruction that identifies an operation to be performed and without reference to operand or address bits in the accessing instruction.” The defendants propose “the bits forming the accessed operand or instruction either begin or end at a position defined in relation to the boundaries of the instruction group in the instruction register rather than the currently executing instruction.” The principal dispute is whether the instruction group refers to the group in which the currently executing instruction is located or whether it refers to the group in which the instruction or operand being accessed is located.

The plaintiffs argue that, during prosecution, the applicants referred to the predetermined position of the *accessed* operand or instruction. *See* Supplemental Amendment, February 5, 1998, at 6-8. The plaintiffs also argue that instruction location is determined based on the particular place for instructions of that type. In addition, the plaintiffs contend that the target address specified by the instruction has no effect on the decision to begin executing at the beginning boundary of a target group.

The defendants argue that the Abstract explains the meaning of this phrase. It states

A high-performance microprocessor system using instruction that access operands and instructions located relative to the current instruction group rather than located relative to the current instructions, as is the convention, is disclosed herein. ‘584 patent, Abstract.

The defendants also contend that the plaintiffs add limitations that are not supported by the intrinsic evidence.

In reply, the plaintiffs contend that the term “current” in the Abstract refers to the target group, not the accessing group. For example, one of ordinary skill in the art would, in the case of a BRANCH instruction, determine the target instruction relative to the boundary of the target group, not the accessing group.

A “predetermined position” refers to a position based on the instruction group being accessed. *See* ‘584 patent, 2:29-35. The Court construes the term to mean “the operand or instruction is accessed at a position defined in relation to the boundaries of the instruction group that includes the operand or instruction being accessed.”

**g. “decoding said at least one instruction to determine said predetermined position”**

The plaintiffs contend that the term means “interpreting an instruction, in particular the portion thereof that signifies the operation to be performed, in order to identify a position relative to the beginning or end of the instruction group that includes the operand or instruction being accessed, without reference to the operand or address bits in the instruction being interpreted.” The defendants propose “interpreting an instruction, in particular the portion thereof that signifies the operation to be performed, in order to identify a position relative to the beginning or end of the current instruction group.”

The Court construes the term to mean “interpreting an instruction, in particular the portion therefor that signifies the operation to be performed, in order to identify a position relative to the beginning or end of the instruction group that includes the operand or instruction being accessed.”

**h. “locating said predetermined position”**

The next term is “locating said predetermined position.” The plaintiffs argue that this term

means “establishing operand or instruction supply within the instruction group that includes the operand or instruction being accessed at the predetermined position.” The defendants argue that the term means “using the results of the decoding step to ascertain the address of the accessed operand or instruction by referencing the current instruction group address rather than the current executing instruction address without adding or subtracting an operand with the current Program Counter.” The parties make similar arguments with regards to “predetermined position” as discussed in the previous section.

The plaintiffs oppose the additional limitation in the defendants’ proposed construction of “without adding or subtracting an operand with the current Program Counter.” According to the plaintiffs, this would exclude a preferred embodiment from the specification stating that the processor “treats the three operands similarly by adding or subtracting them to the current program counter.” ‘584 patent, 11:13-15. In support of this additional limitation, the defendants argue that additions and subtractions are done only at assembly/linking and not at run time. *See* ‘584 patent, 20:43-50.

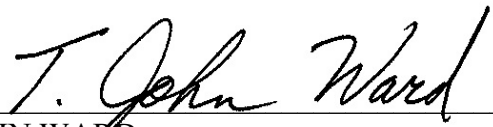
The defendants’ construction improperly incorporates a limitation from the preferred embodiment. The Court construes the term to mean “locating the operand or instruction within the instruction group that includes the operand or instruction being accessed at the predetermined position.”

## **V. Conclusion**

The Court adopts the constructions set forth in this opinion for the disputed terms of the ‘336 patent, the ‘148 patent, and the ‘584 patent. The parties are ordered that they may not refer, directly or indirectly, to each other’s claim construction positions in the presence of the jury. Likewise, the parties are ordered to refrain from mentioning any portion of this opinion, other than the actual

definitions adopted by the Court, in the presence of the jury. Any reference to claim construction proceedings is limited to informing the jury of the definitions adopted by the Court.

SIGNED this 15th day of June, 2007.

  
\_\_\_\_\_  
T. JOHN WARD  
UNITED STATES DISTRICT JUDGE

## Exhibit D



UNITED STATES DISTRICT COURT

EASTERN DISTRICT OF TEXAS

MARSHALL DIVISION DIVISION

FILED-CLERK  
U.S. DISTRICT COURT

2007 OCT 22 PM 4:16

EX EASTERN-MARSHALL

Technology Properties Limited and Patriot  
Scientific Corporation,

Plaintiffs,

v.

Matsushita Electrical Industrial Co., Ltd.,  
Panasonic Corporation of North America, JVC  
Americas Corporation, NEC Electronics  
America, Inc., Toshiba Corporation, Toshiba  
America, Inc., Toshiba America Electronic  
Components, Inc., Toshiba America  
Information Systems, Inc. and Toshiba America  
Consumer Products, LLP, ARM Ltd. and ARM,  
Inc.,

Defendants.

§ Case No. 2:05-CV-00494 (TJW)

BY \_\_\_\_\_

**PLAINTIFFS' AMENDED NOTICE OF APPEAL TO THE  
UNITED STATES COURT OF APPEALS FOR THE FEDERAL CIRCUIT**

Plaintiffs, Technology Properties Limited and Patriot Scientific Corporation, hereby appeal from the Order and Partial Judgment of Non Infringement entered on September 12, 2007, in favor of defendants, ARM Ltd. and ARM, Inc., pursuant to Federal Rule of Civil Procedure 54(b). A copy of the Order is attached hereto.

This Amended Notice is filed to bring ARM Ltd. and ARM, Inc. into the case as appellees. Although noticed and served, these parties were inadvertently omitted from the case caption when the original Notice of Appeal was filed on September 27, 2007.

This Court has jurisdiction over this appeal under 28 U.S.C. section 1295

DATED: October 22, 2007

By:



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**CERTIFICATE OF SERVICE**

I hereby certify that the following counsel of record who are deemed to have consented to electronic service are being served this 22<sup>nd</sup> day of October, 2007, with a copy of this document via the Court's CM/ECF system per Local Rule CV-5(a)(3). Any other counsel of record will be served by electronic mail, facsimile transmission and/or first class mail on this same date

  
Elizabeth L. DeRieux

IN THE UNITED STATES DISTRICT COURT  
FOR THE EASTERN DISTRICT OF TEXAS  
MARSHALL DIVISION

TECHNOLOGY PROPERTIES LTD., ET AL. §

Vs § CIVIL ACTION NO. 2:05-CV-494

MATSUSHITA ELECTRIC INDUS. CO., §  
LTD., ET AL.

**ORDER AND PARTIAL JUDGMENT OF NON-INFRINGEMENT**

On this day came on to be heard Plaintiffs' and Defendants' Stipulation of Partial Judgment of Non-Infringement of U.S. Patent No. 5,784,584 ("the '584 patent") pursuant to F.R.C.P. 54(b). The court, after considering the Stipulation, finds that good cause exists and renders judgment as follows:

Pursuant to Federal Rule of Civil Procedure 54(b), this court finds that there is no just reason for delay and renders judgment in favor of all defendants of non-infringement of claim 29 of the '584 patent. In addition, the court finds that there is no just reason for delay and renders judgment in favor of defendants ARM Ltd. and ARM, Inc. (collectively "ARM") of non-infringement as to all claims asserted against ARM. Finally, although it is understood that the defendants have additional non-infringement arguments, invalidity arguments, equitable arguments, and other defenses and counterclaims, there is no need to reach these issues in view of the non-infringement judgment, and all counterclaims by the defendants with regard to declaratory judgment of alleged non-infringement, invalidity and/or unenforceability of the '584 patent are dismissed without prejudice.

All parties shall bear their own attorneys fees and costs

The clerk of court shall enter partial judgment in accordance herewith.

**Baker-Lehne, Susan**

**From:** txdcm@txed.uscourts.gov  
**Sent:** Wednesday, September 12, 2007 1:02 PM  
**To:** txdcmcc@txed.uscourts.gov  
**Subject:** Activity in Case 2:05-cv-00494-TJW Technology Properties Limited, Inc v Fujitsu Limited et al  
"Order"

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**U.S. District Court [LIVE]**

**Eastern District of TEXAS LIVE**

**Notice of Electronic Filing**

The following transaction was received from ch, entered on 9/12/2007 at 3:01 PM CDT and filed on 9/12/2007

**Case Name:** Technology Properties Limited, Inc , v Fujitsu Limited et al

**Case Number:** 2:05-cv-494

**Filer:**

**Document Number:** 314

**Docket Text:**

ORDER - granting [294] Pla and Dft Stipulation of Partial Judgment of Non-Infringement of US Patent No 5,784,584 pursuant to F. R. C. P 54 (b) The court renders judgment as follows herein Signed by Judge T. John Ward on 9/12/07 (ch, )

The following document(s) are associated with this transaction:

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614e29bf54a9390610887adc232bb56684716078d8cbc4c7f5004f272321d]]

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## Exhibit E

**UNITED STATES DISTRICT COURT  
FOR THE EASTERN DISTRICT OF TEXAS  
MARSHALL DIVISION**

Technology Properties Limited, Inc., and Patriot Scientific Corporation,

Plaintiffs,

v.

Fujitsu Limited, Fujitsu General America, Inc.,  
Fujitsu Computer Products of America, Inc.,  
Fujitsu Computer Systems Corp., Fujitsu  
Microelectronics America, Inc., Fujitsu Ten  
Corporation of America, Matsushita Electrical  
Industrial Co., Ltd., Panasonic Corporation of  
North America, JVC Americas Corporation,  
NEC Corporation, NEC Electronics America,  
Inc., NEC America, Inc., NEC Display  
Solutions of America, Inc., NEC Solutions  
America, Inc., NEC Unified Solutions, Inc.,  
Toshiba Corporation, Toshiba America, Inc.,  
Toshiba America Electronic Components, Inc.,  
Toshiba America Information Systems, Inc.,  
Toshiba America Consumer Products, LLC., ARM, Ltd.,  
and ARM, Inc.

Defendants

2:05-cv-00494-TJW

**FIRST AMENDED ANSWER OF ARM, LTD. AND ARM, INC. TO PLAINTIFFS’  
SECOND AMENDED COMPLAINT FOR PATENT INFRINGEMENT**

Defendants-Intervenors ARM, Ltd. and ARM, Inc. (collectively, “ARM”) by and through its undersigned counsel, hereby present its Answer and Defenses to Plaintiffs Technology Properties Limited (“TPL”) and Patriot Scientific Corporation’s (“Patriot”) (collectively “Plaintiffs”) Second Amended Complaint for Patent Infringement (the “Complaint”), filed February 2, 2007. All Paragraph references refer to the corresponding paragraph in the Complaint.

## **PARTIES**

1. ARM is without knowledge or information sufficient to form a belief as to the averments of Paragraph 1, and therefore denies same.

2. ARM is without knowledge or information sufficient to form a belief as to the averments of Paragraph 2, and therefore denies same.

3. ARM is without knowledge or information sufficient to form a belief as to the averments of Paragraph 3, and therefore denies same.

4. ARM is without knowledge or information sufficient to form a belief as to the averments of Paragraph 4, and therefore denies same.

5. ARM is without knowledge or information sufficient to form a belief as to the averments of Paragraph 5, and therefore denies same.

6. ARM is without knowledge or information sufficient to form a belief as to the averments of Paragraph 6, and therefore denies same.

7. ARM is without knowledge or information sufficient to form a belief as to the averments of Paragraph 7, and therefore denies same.

8. ARM is without knowledge or information sufficient to form a belief as to the averments of Paragraph 8, and therefore denies same.

9. ARM is without knowledge or information sufficient to form a belief as to the averments of Paragraph 9, and therefore denies same.

10. ARM is without knowledge or information sufficient to form a belief as to the averments of Paragraph 10, and therefore denies same.

11. ARM is without knowledge or information sufficient to form a belief as to the averments of Paragraph 11, and therefore denies same.

12. ARM is without knowledge or information sufficient to form a belief as to the averments of Paragraph 12, and therefore denies same.

13. ARM is without knowledge or information sufficient to form a belief as to the averments of Paragraph 13, and therefore denies same.

14. ARM is without knowledge or information sufficient to form a belief as to the averments of Paragraph 14, and therefore denies same.

15. ARM is without knowledge or information sufficient to form a belief as to the averments of Paragraph 15, and therefore denies same.

16. ARM is without knowledge or information sufficient to form a belief as to the averments of Paragraph 16, and therefore denies same.

17. ARM is without knowledge or information sufficient to form a belief as to the averments of Paragraph 17, and therefore denies same.

18. ARM is without knowledge or information sufficient to form a belief as to the averments of Paragraph 18, and therefore denies same.

19. ARM is without knowledge or information sufficient to form a belief as to the averments of Paragraph 19, and therefore denies same.

20. ARM is without knowledge or information sufficient to form a belief as to the averments of Paragraph 20, and therefore denies same.

21. ARM is without knowledge or information sufficient to form a belief as to the averments of Paragraph 21, and therefore denies same.

22. ARM is without knowledge or information sufficient to form a belief as to the averments of Paragraph 22, and therefore denies same.

### **JURISDICTION AND VENUE**

23. Paragraph 23 contains conclusions of law and not averments of fact to which an answer is required, but insofar as an answer may be deemed required, ARM admits that based only on the allegations in the Complaint, this action likely arises under the patent laws of the United States, 35 U.S.C. § 1, *et seq.* and that under 28 U.S.C. § 1338(a), the Court has original jurisdiction over civil actions arising under the patent laws.

24. Paragraph 24 contains conclusions of law and not averments of fact to which an answer is required, but insofar as an answer may be deemed required, ARM denies that it has committed acts of infringement or continues to commit acts of infringement anywhere and admits that based only on the allegations in the Complaint, venue appears to be proper in this Court under 28 U.S.C. §§ 1391(c) and 1400(b).

### **THE PATENTS**

25. ARM admits that United States Patent No. 6,598,148 (the “‘148 patent”) states as its title “High Performance Microprocessor Having Variable Speed System Clock” and that Exhibit A to the Complaint appears to be a copy of the ‘148 patent. ARM is without knowledge or information sufficient to form a belief as to the remaining averments of Paragraph 25, and therefore denies same.

26. ARM admits that United States Patent No. 5,809,336 (the “‘336 patent”) states as its title “High Performance Microprocessor Having Variable Speed System Clock” and that Exhibit B to the Complaint appears to be a copy of the ‘336 patent. ARM is without knowledge or information sufficient to form a belief as to the remaining averments of Paragraph 26, and therefore denies same.

27. ARM admits that United States Patent No. 5,784,584 (the “‘584 patent”) states as its title “High Performance Microprocessor Using Instructions That Operate Within Instruction

Groups” and that Exhibit C to the Complaint appears to be a copy of the ‘584 patent. ARM is without knowledge or information sufficient to form a belief as to the remaining averments of Paragraph 27, and therefore denies same.

28. ARM is without knowledge or information sufficient to form a belief as to the averments of Paragraph 28, and therefore denies same.

29. ARM is without knowledge or information sufficient to form a belief as to the averments of Paragraph 29, and therefore denies same.

30. ARM is without knowledge or information sufficient to form a belief as to the averments of Paragraph 30, and therefore denies same.

#### **ALLEGED INFRINGEMENT BY FUJITSU**

31. ARM is without knowledge or information sufficient to form a belief as to the averments of Paragraph 31, and therefore denies same.

32. ARM is without knowledge or information sufficient to form a belief as to the averments of Paragraph 32, and therefore denies same.

33. ARM is without knowledge or information sufficient to form a belief as to the averments of Paragraph 33, and therefore denies same.

34. ARM is without knowledge or information sufficient to form a belief as to the averments of Paragraph 34, and therefore denies same.

35. ARM is without knowledge or information sufficient to form a belief as to the averments of Paragraph 35, and therefore denies same.

36. ARM is without knowledge or information sufficient to form a belief as to the averments of Paragraph 36, and therefore denies same.

37. ARM is without knowledge or information sufficient to form a belief as to the averments of Paragraph 37, and therefore denies same.

38. ARM is without knowledge or information sufficient to form a belief as to the averments of Paragraph 38, and therefore denies same.

39. ARM is without knowledge or information sufficient to form a belief as to the averments of Paragraph 39, and therefore denies same.

40. ARM is without knowledge or information sufficient to form a belief as to the averments of Paragraph 40, and therefore denies same.

41. ARM is without knowledge or information sufficient to form a belief as to the averments of Paragraph 41, and therefore denies same.

42. ARM is without knowledge or information sufficient to form a belief as to the averments of Paragraph 42, and therefore denies same.

43. ARM is without knowledge or information sufficient to form a belief as to the averments of Paragraph 43, and therefore denies same.

44. ARM is without knowledge or information sufficient to form a belief as to the averments of Paragraph 44, and therefore denies same.

45. ARM is without knowledge or information sufficient to form a belief as to the averments of Paragraph 45, and therefore denies same.

46. ARM is without knowledge or information sufficient to form a belief as to the averments of Paragraph 46, and therefore denies same.

47. ARM is without knowledge or information sufficient to form a belief as to the averments of Paragraph 47, and therefore denies same.

48. ARM is without knowledge or information sufficient to form a belief as to the averments of Paragraph 48, and therefore denies same.

**ALLEGED INFRINGEMENT BY MATSUSHITA**

49. ARM is without knowledge or information sufficient to form a belief as to the averments of Paragraph 49, and therefore denies same.

50. ARM is without knowledge or information sufficient to form a belief as to the averments of Paragraph 50, and therefore denies same.

51. ARM is without knowledge or information sufficient to form a belief as to the averments of Paragraph 51, and therefore denies same.

52. ARM is without knowledge or information sufficient to form a belief as to the averments of Paragraph 52, and therefore denies same.

53. ARM is without knowledge or information sufficient to form a belief as to the averments of Paragraph 53, and therefore denies same.

54. ARM is without knowledge or information sufficient to form a belief as to the averments of Paragraph 54, and therefore denies same.

55. ARM is without knowledge or information sufficient to form a belief as to the averments of Paragraph 55, and therefore denies same.

56. ARM is without knowledge or information sufficient to form a belief as to the averments of Paragraph 56, and therefore denies same.

57. ARM is without knowledge or information sufficient to form a belief as to the averments of Paragraph 57, and therefore denies same.

**ALLEGED INFRINGEMENT BY NEC**

58. ARM is without knowledge or information sufficient to form a belief as to the averments of Paragraph 58, and therefore denies same.

59. ARM is without knowledge or information sufficient to form a belief as to the averments of Paragraph 59, and therefore denies same.



60. ARM is without knowledge or information sufficient to form a belief as to the averments of Paragraph 60, and therefore denies same.

61. ARM is without knowledge or information sufficient to form a belief as to the averments of Paragraph 61, and therefore denies same.

62. ARM is without knowledge or information sufficient to form a belief as to the averments of Paragraph 62, and therefore denies same.

63. ARM is without knowledge or information sufficient to form a belief as to the averments of Paragraph 63, and therefore denies same.

64. ARM is without knowledge or information sufficient to form a belief as to the averments of Paragraph 64, and therefore denies same.

65. ARM is without knowledge or information sufficient to form a belief as to the averments of Paragraph 65, and therefore denies same.

66. ARM is without knowledge or information sufficient to form a belief as to the averments of Paragraph 66, and therefore denies same.

67. ARM is without knowledge or information sufficient to form a belief as to the averments of Paragraph 67, and therefore denies same.

68. ARM is without knowledge or information sufficient to form a belief as to the averments of Paragraph 68, and therefore denies same.

69. ARM is without knowledge or information sufficient to form a belief as to the averments of Paragraph 69, and therefore denies same.

70. ARM is without knowledge or information sufficient to form a belief as to the averments of Paragraph 70, and therefore denies same.

71. ARM is without knowledge or information sufficient to form a belief as to the averments of Paragraph 71, and therefore denies same.

72. ARM is without knowledge or information sufficient to form a belief as to the averments of Paragraph 72, and therefore denies same.

73. ARM is without knowledge or information sufficient to form a belief as to the averments of Paragraph 73, and therefore denies same.

74. ARM is without knowledge or information sufficient to form a belief as to the averments of Paragraph 74, and therefore denies same.

75. ARM is without knowledge or information sufficient to form a belief as to the averments of Paragraph 75, and therefore denies same.

**ALLEGED INFRINGEMENT BY TOSHIBA**

76. ARM is without knowledge or information sufficient to form a belief as to the averments of Paragraph 76, and therefore denies same.

77. ARM is without knowledge or information sufficient to form a belief as to the averments of Paragraph 77, and therefore denies same.

78. ARM is without knowledge or information sufficient to form a belief as to the averments of Paragraph 78, and therefore denies same.

79. ARM is without knowledge or information sufficient to form a belief as to the averments of Paragraph 79, and therefore denies same.

80. ARM is without knowledge or information sufficient to form a belief as to the averments of Paragraph 80, and therefore denies same.

81. ARM is without knowledge or information sufficient to form a belief as to the averments of Paragraph 81, and therefore denies same.

82. ARM is without knowledge or information sufficient to form a belief as to the averments of Paragraph 82, and therefore denies same.

83. ARM is without knowledge or information sufficient to form a belief as to the averments of Paragraph 83, and therefore denies same.

84. ARM is without knowledge or information sufficient to form a belief as to the averments of Paragraph 84, and therefore denies same.

85. ARM is without knowledge or information sufficient to form a belief as to the averments of Paragraph 85, and therefore denies same.

86. ARM is without knowledge or information sufficient to form a belief as to the averments of Paragraph 86, and therefore denies same.

87. ARM is without knowledge or information sufficient to form a belief as to the averments of Paragraph 87, and therefore denies same.

88. ARM is without knowledge or information sufficient to form a belief as to the averments of Paragraph 88, and therefore denies same.

89. ARM is without knowledge or information sufficient to form a belief as to the averments of Paragraph 89, and therefore denies same.

90. ARM is without knowledge or information sufficient to form a belief as to the averments of Paragraph 90, and therefore denies same.

**PLAINTIFFS' PRAYER FOR RELIEF**

91. ARM denies that Plaintiffs are entitled to any of the relief stated in Plaintiffs' Prayer for Relief.

92. All remaining averments not specifically admitted herein are denied.

### **ARM SPECIFIC AVERMENTS**

93. ARM, Ltd. is a subsidiary of ARM Holdings plc and a corporation organized under the laws of the England and Wales, with its principal place of business in Cambridge, England.

94. ARM, Inc. is a subsidiary of ARM Holdings plc and a corporation organized under the laws of California, with its principal place of business in Sunnyvale, California.

### **DEFENSE AND AFFIRMATIVE DEFENSES**

95. The claims of the '584 patent are invalid and/or unenforceable under one or more provisions of Title 35, United States Code, including without limitation, §§ 102, 103, and/or 112 thereof.

96. ARM has not committed any act that would give rise to liability for infringement of any properly construed, valid claim of the '584 patent.

97. Plaintiffs do not have the requisite ownership rights to establish standing to sue as to the '584 patent.

98. All or some of Plaintiffs' claims are barred by the doctrine of laches.

99. All or some of Plaintiffs' claims are barred by equitable estoppel.

100. The Complaint fails to state a claim upon which relief can be granted.

101. Plaintiffs' asserted damages are limited by 35 U.S.C. § 287.

102. Plaintiffs' claims for infringement of the '584 patent are barred because those patents are unenforceable and/or invalid as a result of inequitable conduct and/or failure to name the proper inventors.

a. Two individuals, Mr. Charles Moore and Mr. Russell Fish, are named as inventors on the face of the '584 patent.

b. In late 1988, Mr. Moore had previous experience designing Forth-based microprocessors, while Mr. Fish had experience in sales and marketing of microprocessors.

c. During 1989, Mr. Moore utilized the Semiconductor Design Center of Japanese semiconductor manufacturer, Oki, in Sunnyvale, California, to carry out his microprocessor design activities. Mr. Fish did not have access to the Oki Design Center.

d. During the time before the filing of U.S. Patent Application No. 07/389,334 (the "Application"), divisions of which issued as the '584 patent, Mr. Moore worked on designing the microprocessor discussed in the Application. Mr. Fish, however, worked on marketing that microprocessor. Mr. Fish was not concerned about the problems addressed by the microprocessor design disclosed in the Application.

e. Mr. Moore did all the design work on the microprocessor disclosed in the Application by himself.

f. None of the persons substantially involved in the prosecution of the Application, including Mr. Moore and Mr. Fish, disclosed to the patent office that Mr. Moore had performed all of the design work on the disclosed microprocessor himself.

g. Mr. Moore and Mr. Fish submitted declarations signed under oath stating that Mr. Fish was an inventor of the subject matter claimed in the Application.

h. Mr. Fish did none of the design work on the disclosed microprocessor. Mr. Fish was only responsible for marketing and potential sales of the microprocessor.

i. Mr. Fish was not an inventor of the subject matter claimed in the Application.

j. The misstatements made by both Mr. Moore and Mr. Fish that Mr. Fish was an inventor were material.

k. Mr. Moore was motivated to state that Mr. Fish was an inventor because he wanted to convince Mr. Fish to make every effort to market the microprocessor that Mr. Moore had designed.

l. Mr. Fish was motivated to claim inventorship both to receive a share of any patent rights that might result from the Application and for the recognition of being an inventor.

m. At least Mr. Moore was aware that Mr. Fish was not an inventor and intended to deceive the patent office when he declared under penalty of perjury that Mr. Fish was an inventor.

103. ARM reserves the right to offer additional defenses that cannot now be articulated due to the need for further discovery regarding Plaintiffs' claims.

#### **PRAYER FOR RELIEF**

WHEREFORE, ARM prays for judgment that:

1. Plaintiffs be denied all relief and take nothing;
2. Judgment be entered that ARM has not, and does not, infringe, directly or indirectly, any properly construed, valid enforceable claim of the '584 patent;
3. Judgment be entered that the '584 patent is invalid and/or unenforceable;
4. This case be declared exceptional pursuant to 35 U.S.C. § 285 and that this Court award ARM the costs of this action, including reasonable attorneys' fees and litigation expenses;
5. ARM be awarded such other and further relief as the Court deems just and proper.

**A JURY TRIAL IS DEMANDED AS TO ALL ELEMENTS TRIABLE BY JURY.**

Respectfully submitted,



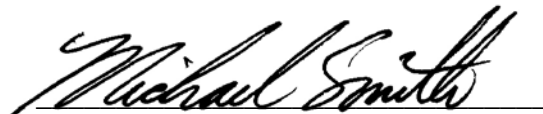
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***COUNSEL FOR ARM LTD. AND ARM, INC.***

**CERTIFICATE OF SERVICE**

The undersigned hereby certifies that all counsel of record who are deemed to have consented to electronic service are being served with a copy of this document via the Court's CM/ECF system per Local Rule CV-5(a)(3) this 16<sup>th</sup> day of February, 2007. Any other counsel of record will be served by facsimile transmission and/or first class mail.



Michael C. Smith